COVALENTLY BONDED POLYHEDRAL OLIGOMERIC SILSESQUIOXANE/POLYIMIDE NANOCOMPOSITES AND PROCESS FOR SYNTHESIZING THE SAME

ABSTRACT

Polyhedral oligomeric silsesquioxane/polyimide nanocomposites with certain mechanical properties and low dielectric constant is synthesized by covalently tethering functionalized polyhedral oligomeric silsesquioxane molecules to polyimide. These nanocomposites appear to be self-assembled systems.

A process for synthesizing said polyhedral oligomeric silsesquioxane/polyimide nanocornposites also is provided, comprising a step of forming porous type polyhedral oligomeric silsesquioxane, and a subsequent step of reacting with dianhydride or directly reacting with synthesized polyimide.